

Comprehensive Cancer Centres

Mary Gospodarowicz MD

Princess Margaret Cancer Centre

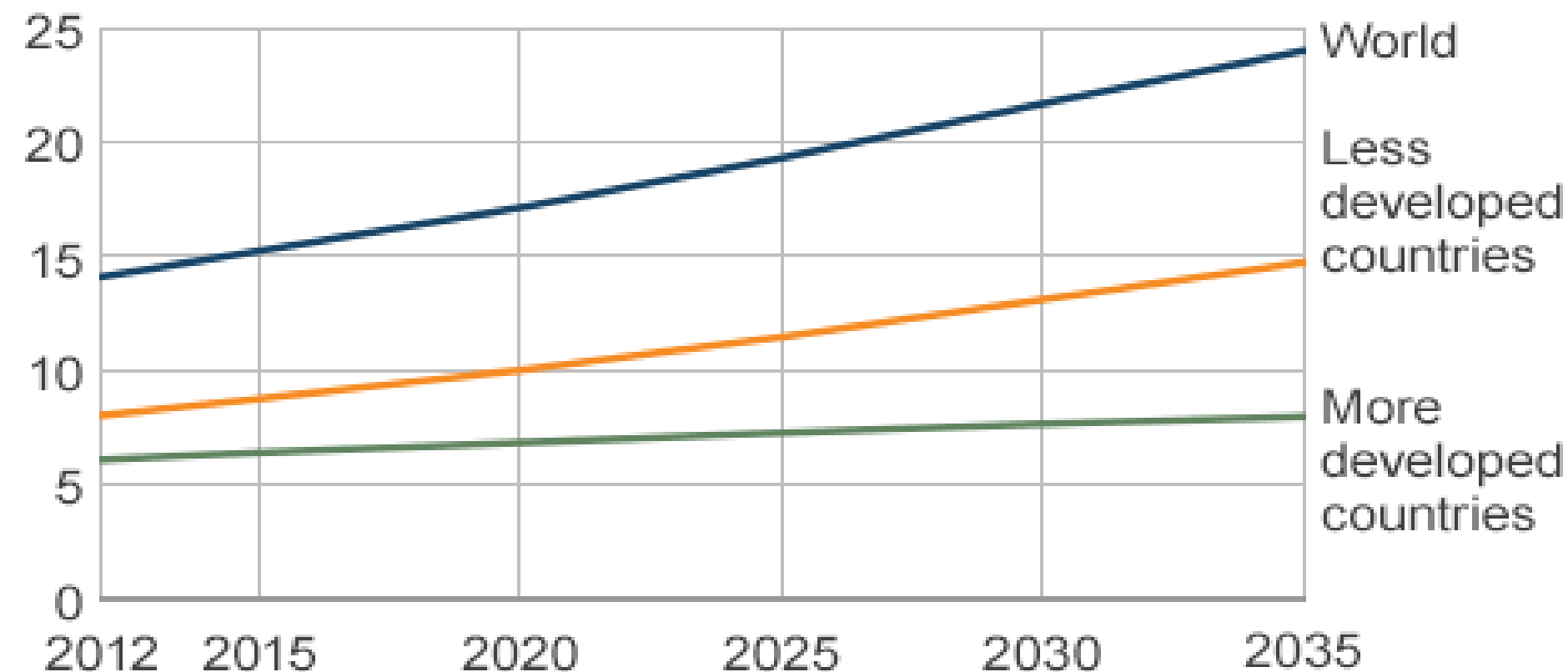
University of Toronto

Tsunami of cancer coming

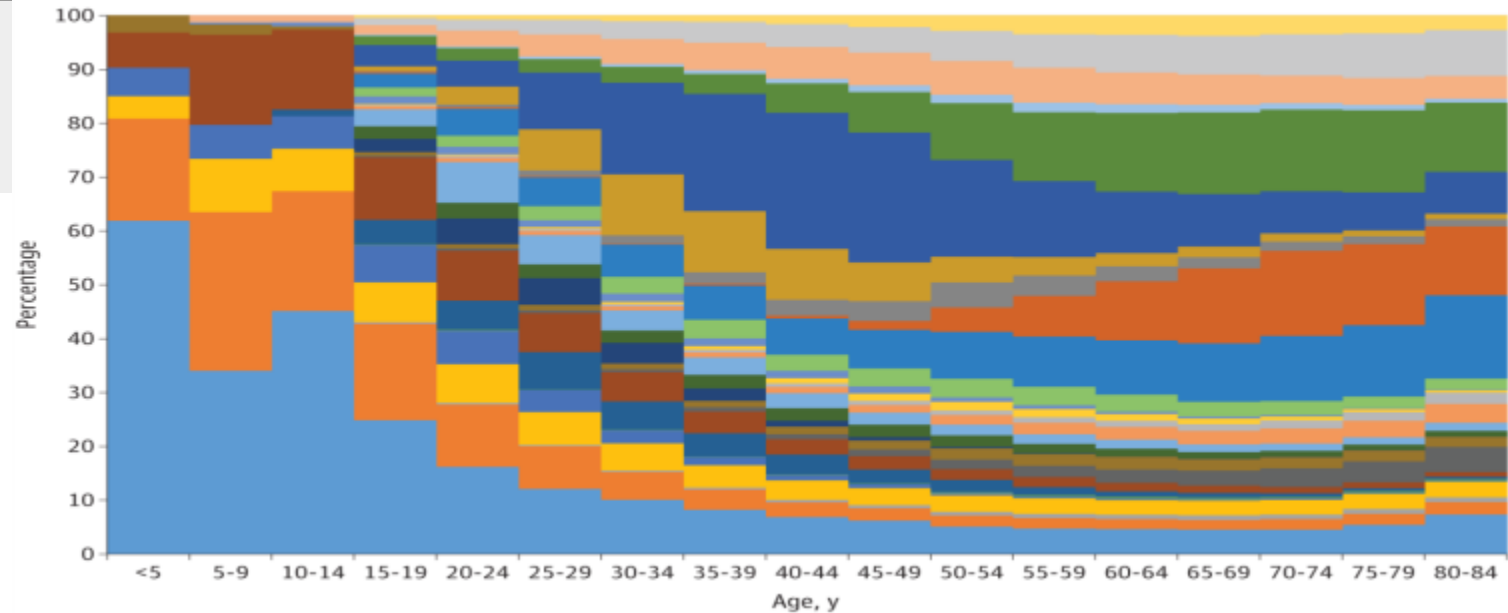


Predicted Global Cancer Cases

Cases (millions)

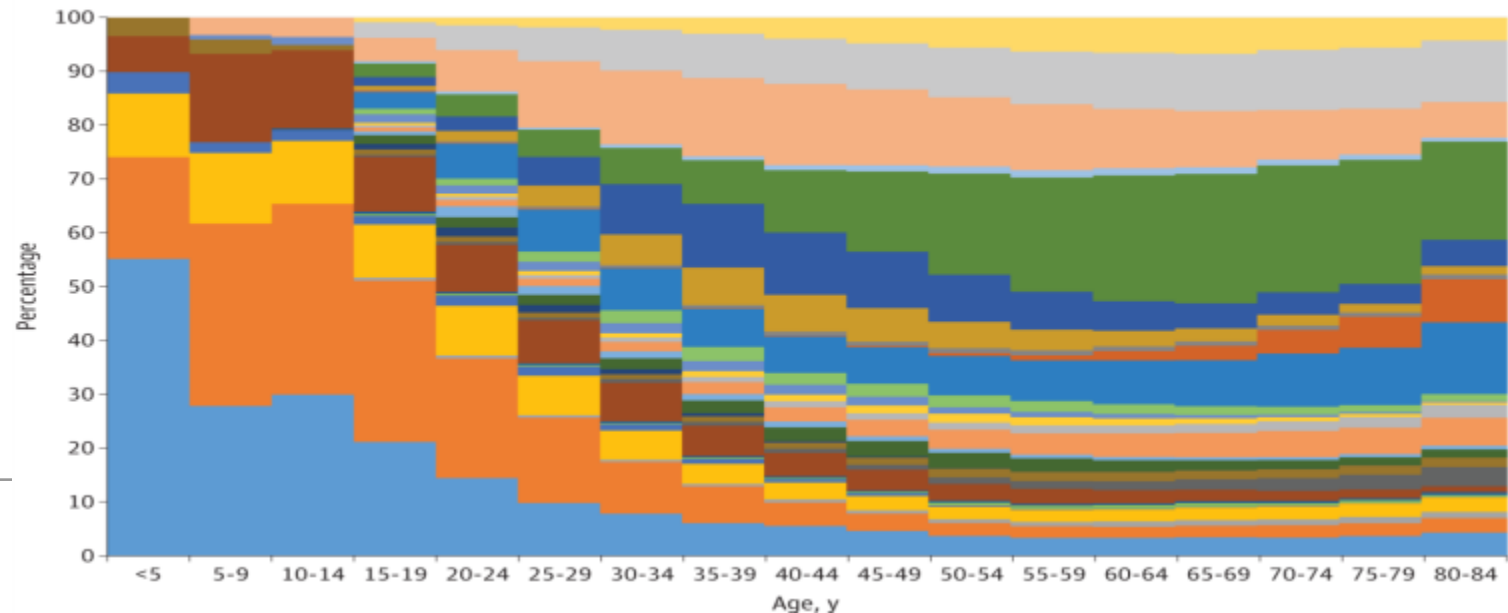


A Cancer Incidence



- Esophageal cancer
- Stomach cancer
- Liver cancer
- Larynx cancer
- Tracheal, bronchus, and lung cancer
- Breast cancer
- Cervical cancer
- Uterine cancer
- Prostate cancer
- Colon and rectum cancer
- Lip and oral cavity cancer
- Nasopharynx cancer
- Other pharynx cancer
- Gallbladder and biliary tract cancer
- Pancreatic cancer
- Malignant skin melanoma
- Ovarian cancer
- Testicular cancer
- Kidney cancer
- Bladder cancer
- Brain and nervous system cancer
- Thyroid cancer
- Mesothelioma
- Hodgkin lymphoma
- Non-Hodgkin lymphoma
- Multiple myeloma
- Leukemia
- Other neoplasms

B Cancer Mortality



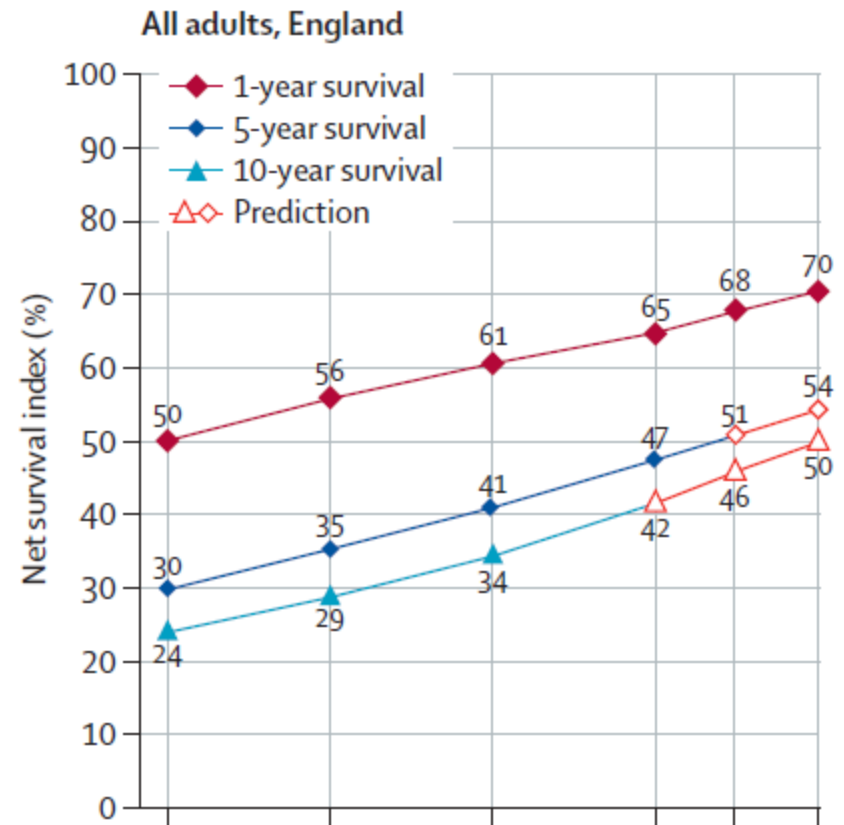
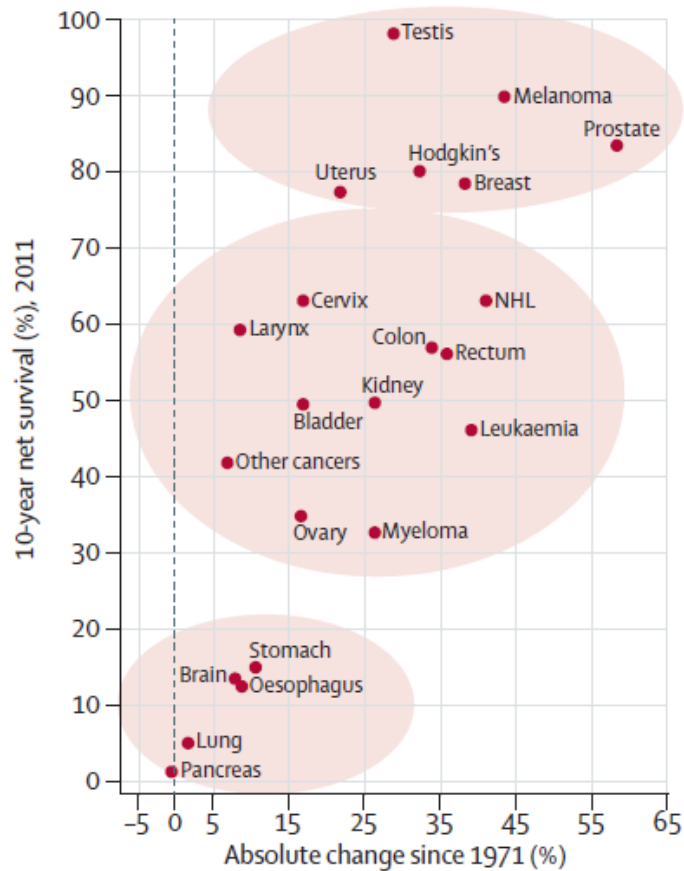
Cancer: a heterogeneous disease needing a tailored response

- Patterns differ by region, development and country
- Patterns are evolving over time
- Risk factors also vary by region and country and encompass far more than those common to NCDs
- Prevention works, but takes time
- Cancer differs remarkably in molecular characteristics: implications for early detection and therapy
- Cancer patients access almost the full spectrum of healthcare services (other than obstetrical services)
- Optimal cancer control requires well functioning health system

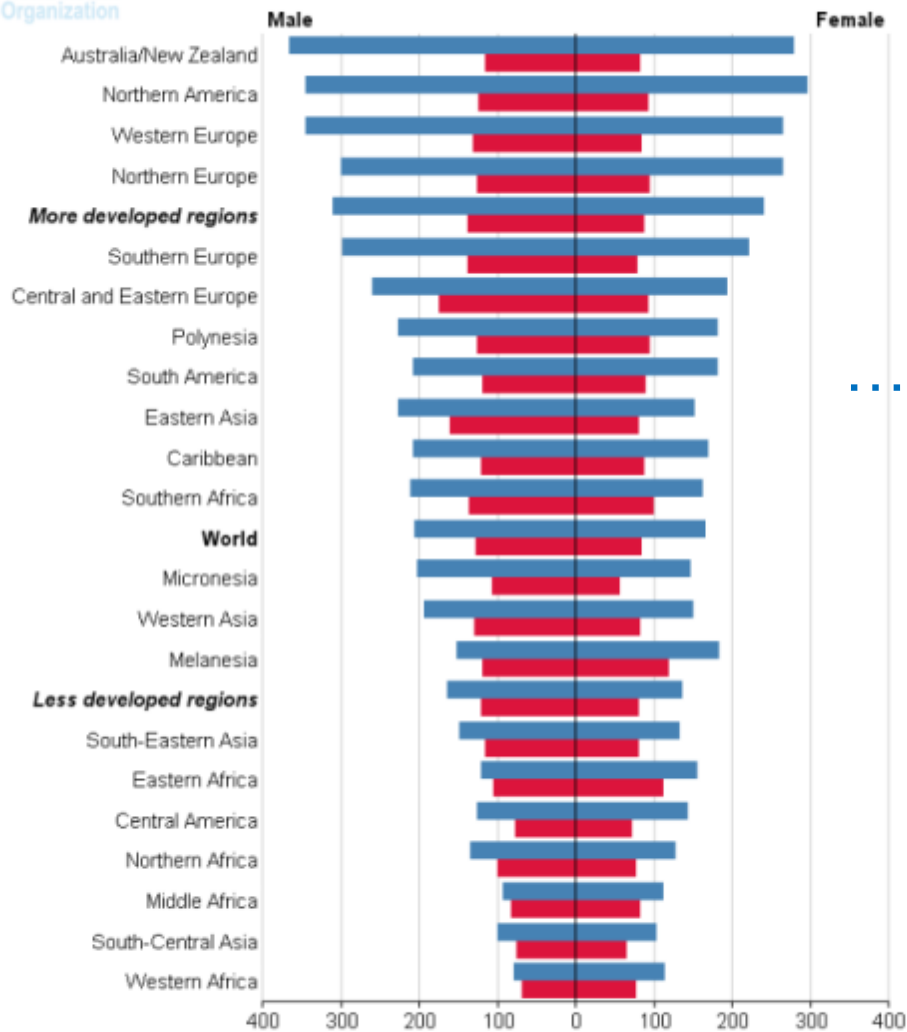
Huge progress has been achieved

40-year trends in an index of survival for all cancers combined and survival adjusted for age and sex for each cancer in England and Wales, 1971–2011: a population-based study

Manuela Quaresma, Michel P Coleman, Bernard Rachet



www.thelancet.com Published online December 3, 2014 [http://dx.doi.org/10.1016/S0140-6736\(14\)61396-9](http://dx.doi.org/10.1016/S0140-6736(14)61396-9)



...but huge gaps in equity exist

GLOBOCAN 2012 (IARC)

Estimated age-standardised rates (World) per 100,000

■ Incidence
■ Mortality

Equity Gap

- Availability of care
 - Prevention, early detection, diagnostic services
 - Facilities, health professionals, equipment
 - Health systems
- Affordability
 - Poverty, catastrophic expense, UHC
- Awareness - Education, stigma

Gaps seen in access to surgery, radiotherapy, medications, palliative care.....

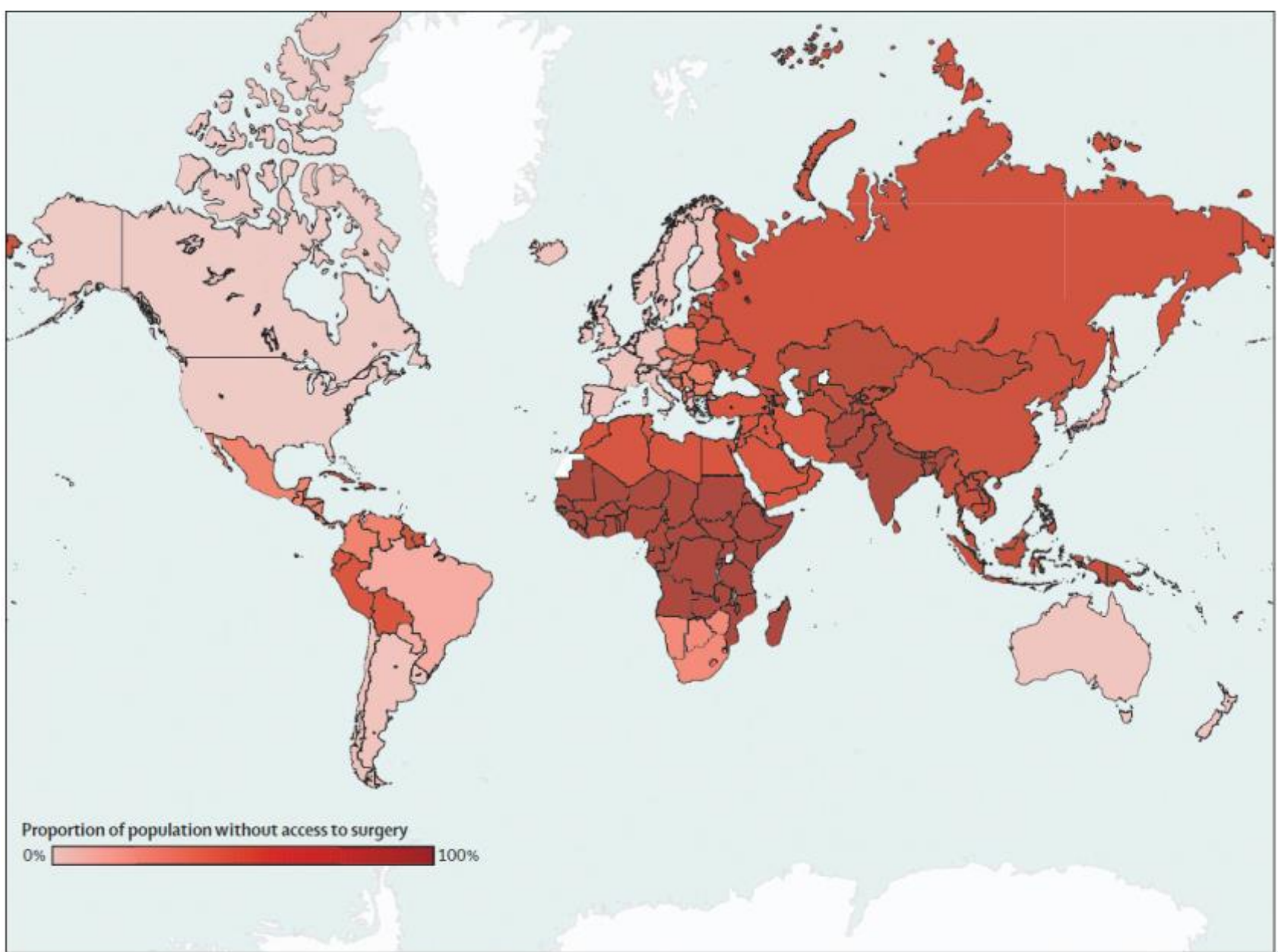
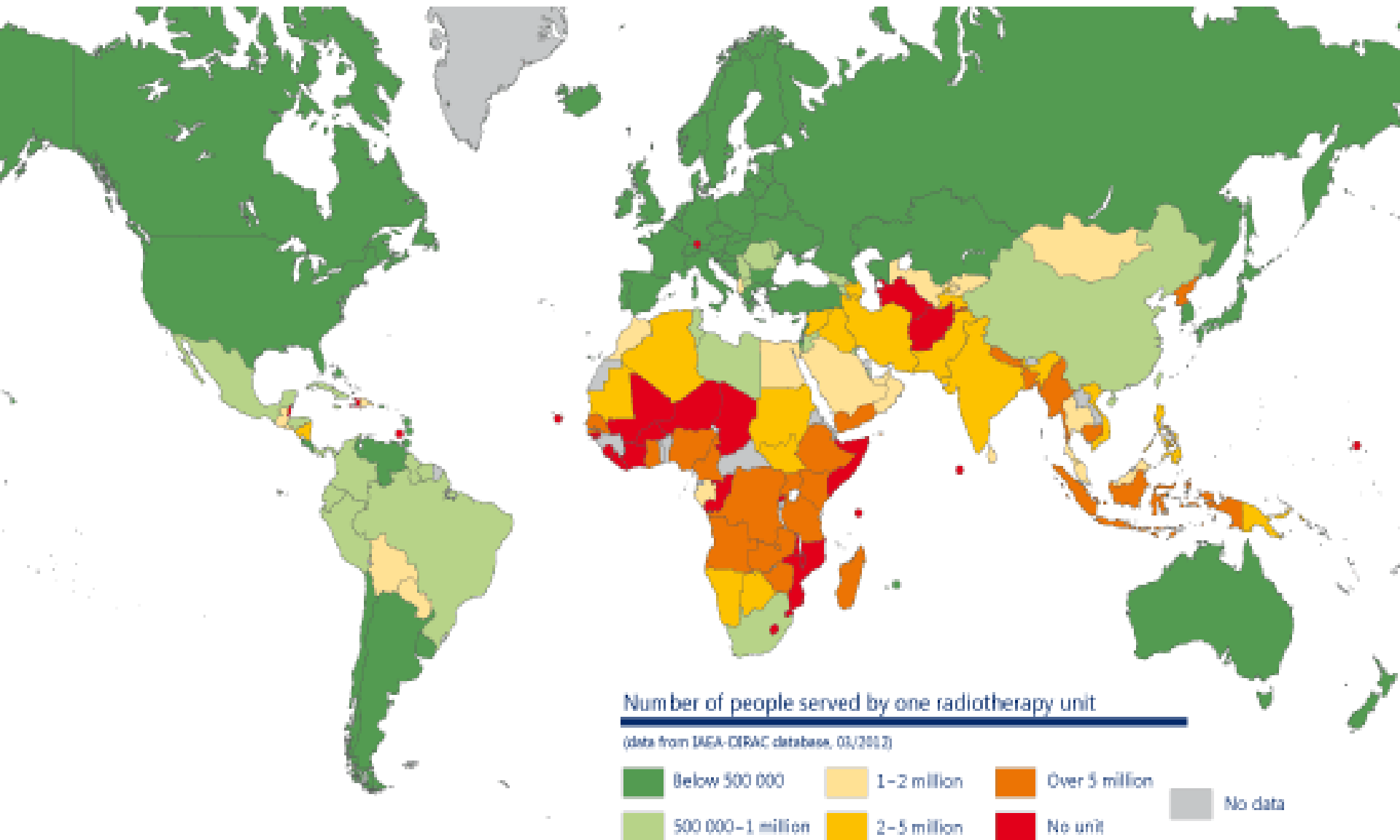


Figure 2: Proportion of the population without access to safe, affordable surgery and anaesthesia by Institute for Health Metrics and Evaluation region (selective tree)^{25,29}



Population per radiotherapy treatment unit.

Use of and barriers to access to opioid analgesics: a worldwide, regional, and national study

Stefano Berterame, Juliana Erthal, Johny Thomas, Sarah Fellner, Benjamin Vosse, Philip Clare, Wei Hao, David T Johnson, Alejandro Mohar, Jagjit Pavadia, Ahmed Kamal Eldin Samak, Werner Sipp, Viroj Sumyai, Sri Suryawati, Jallal Toufiq, Raymond Yans, Richard P Mattick

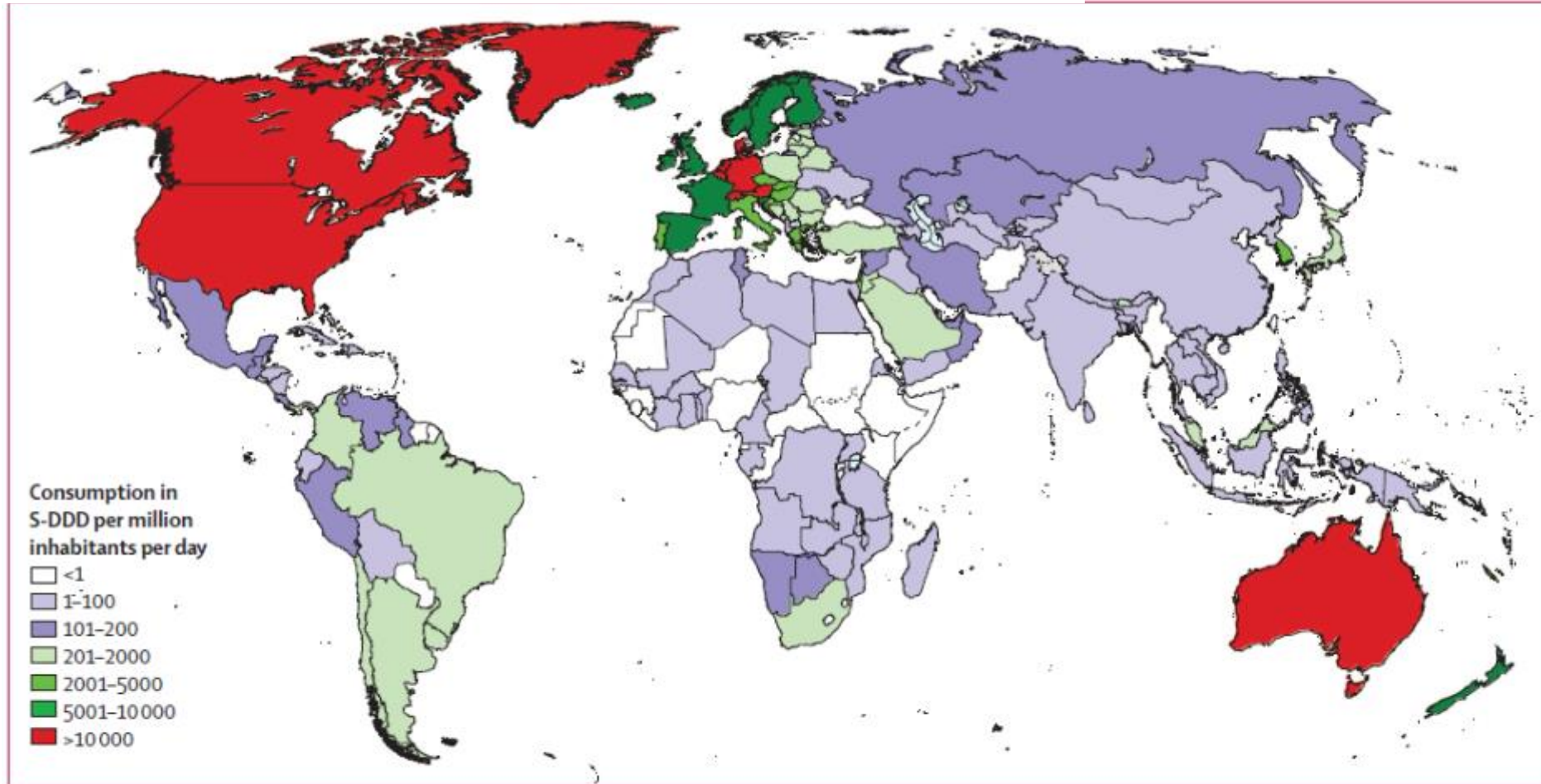


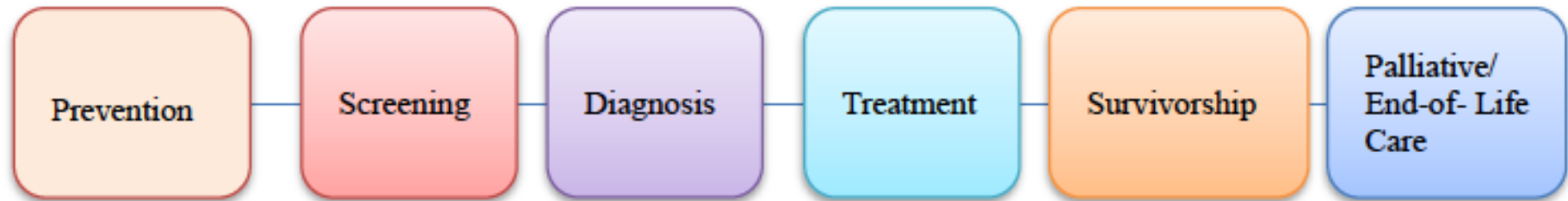
Figure 2: Mean availability of opioids for pain management in 2011-13

Lancet 2016; 387: 1644-56

Cancer Control

.....designed to reduce cancer incidence and mortality and improve quality of life of cancer patients, through the systematic and equitable implementation of evidence-based strategies for the prevention, early detection, diagnosis, treatment and palliation.....

(WHO 2002)



Adapted from Cancer Care Ontario, 2013b

Quality in Health Care

- Patients get the care they need
- Patients need the care they get
- Care is delivered safely
- Care is delivered on time
- Care is patient centred
- Care is equitable

IOM Report – Crossing the Quality Chasm

Goals of the IOM Report Recommendations

1. Provide patients and their families with understandable information about cancer prognosis, treatment benefits and harms, palliative care, psychosocial support, and estimates of the cost of care.
2. Provide patients with end-of-life care consistent with their needs, values, and preferences.
3. Deliver coordinated, team-based cancer care within cancer care team and with primary care/geriatrics.
4. Develop core competencies for cancer care across the workforce and ensure that all individuals caring for patients with cancer have appropriate core competencies.
5. Expand breadth of cancer research data collected so that they reflect the population with the disease, such as the elderly and patients with comorbid conditions.

Goals of the IOM Report Recommendations

6. Expand depth of cancer research data available for assessing interventions through a common set of data elements that capture patient-reported outcomes, relevant patient characteristics, and health behaviors.
7. Develop a learning health care information technology system for cancer that enables real-time analysis of data from patients in a variety of care settings.
8. Develop a national quality reporting program for cancer care as part of a learning health care system.
9. Implement a national strategy to reduce disparities in access to cancer care for vulnerable and underserved populations by leveraging community interventions.
10. Improve the affordability of cancer care by leveraging existing efforts to reform payment and eliminate waste.

Essential services for cancer

- Diagnostic
 - Pathology
 - Laboratory medicine
 - Imaging
- Surgery
- Radiotherapy
- Chemotherapy
- Palliative care

Shortage of facilities, equipment and people

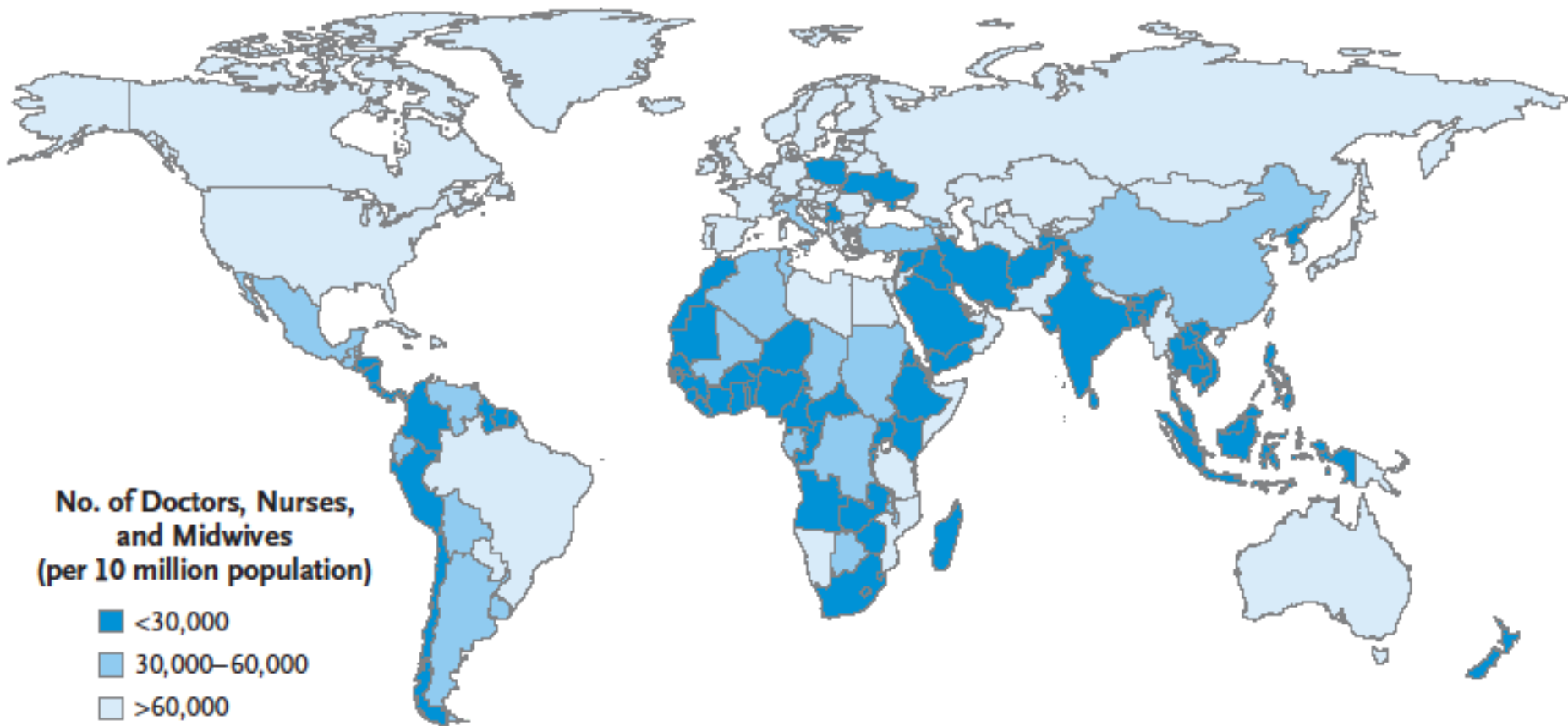


Figure 1. Doctors, Nurses, and Midwives per 10 Million Population, 2011.

Year 2011 data were not available for some countries; in those cases, the most recent available data are shown. Data are from the World Health Organization (WHO) Global Health Workforce Statistics.⁹

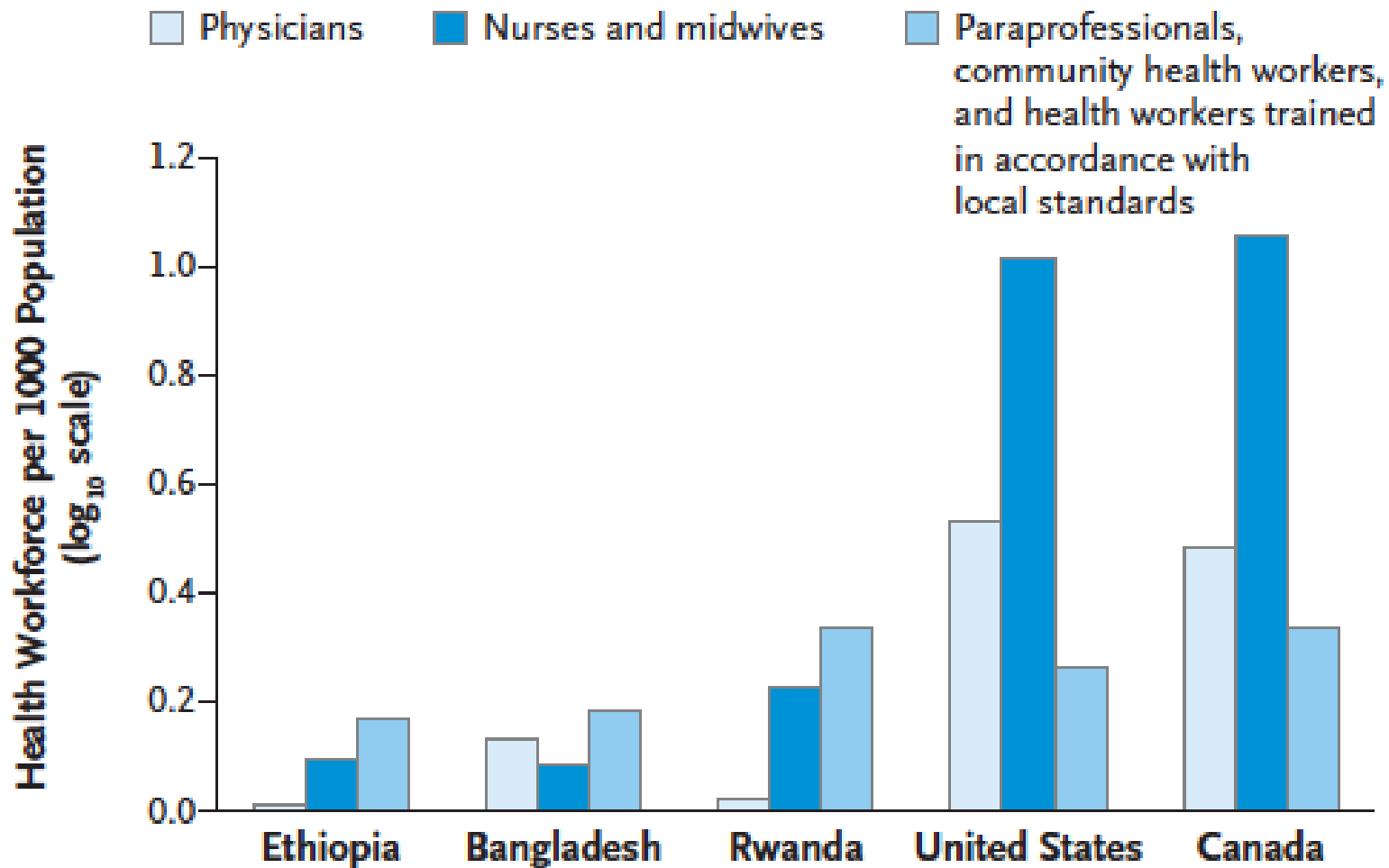


Figure 3. Health Workforce in Five Countries, According to Type of Health Worker, 2011.

N Engl J Med 2014;370:950-7.

Cancer Services Comprehensive Cancer Centre

The screenshot shows a website interface with a navigation bar at the top containing links for Home, Volumes, About, News & Events, Country Work, Publications, and DCP2. Below the navigation bar is a 'Home' breadcrumb. On the left side, there is a 'Volume Contents' sidebar with a 'Download the entire volume' button and a list of sections: Front Matter, Overview Chapter, Part 1: The Global Burden, Part 2: Surgical Interventions, Part 3: Surgical Platforms and Policies, Part 4: The Economics of Surgery, Back Matter, and Annexes. Below the sidebar is a 'Receive Our Newsletter' form with a 'Sign-up!' button. The main content area features a red header for the chapter title, followed by the authors' names: Mary Gospodarowicz, Anil D. Cruz, Felicia Knaul, Jamal Khader, Joann Trypuc, and Sherif Omar. Below this is an 'Abstract' section with a paragraph of text, and a 'Contact' section with an email address: mary.gospodarowicz@rmp.uhn.on.ca. At the bottom right, there is a table with two columns: 'Attachment' and 'Size'. The table contains one entry: 'CANCER.Ch11.Cancer.Services.pdf' with a size of '951.06 KB'.

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- ▶ Part 3: Surgical Platforms and Policies
- ▶ Part 4: The Economics of Surgery

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Cancer Services and the Comprehensive Cancer Center

Authors: Mary Gospodarowicz, Anil D. Cruz, Felicia Knaul, Jamal Khader, Joann Trypuc, Sherif Omar

Abstract

The modern cancer system is composed of the comprehensive set of functions starting with population based cancer plans, cancer registries, public health functions, health system institutions that deliver all components of clinical care. Recent emphasis on health systems focuses on the population wide intervention. However, cancer centres, or cancer programs within health care institutions, are critical to the delivery of cancer care. Cancer centers are complex organizations that evolved over time to being able to provide a comprehensive set of interventions and act as champions for cancer prevention, treatment and supportive care, while at the same time promoting cancer research and education. Cancer centres may be supported in a country regardless of its resource level and they play an important role in advancing the clinical functions of cancer systems. In this chapter we describe a framework for a comprehensive cancer center which although focused on clinical care acts as an important anchor for a cancer system. The framework we propose outlines structures for clinical management, clinical services, core services, and system support with quality as an integrating theme. We describe the elements required for each clinical service to deliver care and the core services to support their functions. The significant benefits of comprehensive centers are identified.

Contact

To submit queries or comments about this chapter, please email the corresponding author, Mary Gospodarowicz at mary.gospodarowicz@rmp.uhn.on.ca

Attachment	Size
CANCER.Ch11.Cancer.Services.pdf	951.06 KB

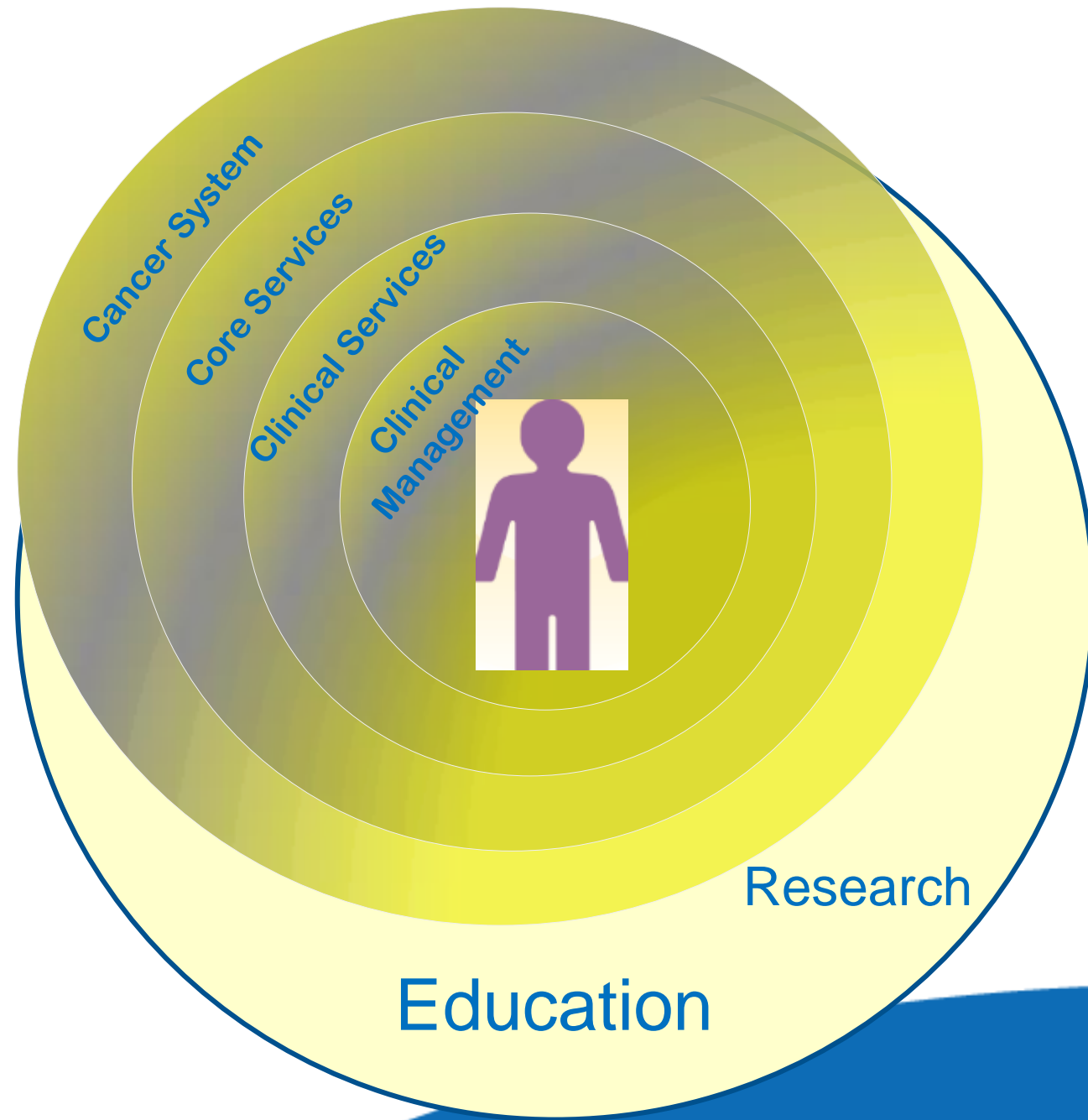
Background

- A comprehensive cancer system is one that addresses cancer prevention, screening and early detection, diagnosis, treatment, supportive and palliative care, policy and advocacy (WHO)
- We describe the framework for planning and organization of services that must be put in place to support such a system

The Framework is equally relevant to high income countries as it is to middle and low income countries

Different areas of the world are at different stages of development.

Each needs to assess its cancer burden, existing capacity and resources, government resources, and opportunities provided by professional or volunteer cancer advocates to drive improved access to quality cancer care.



Clinical Management

- A framework for decision making in cancer screening, diagnosis, treatment, support, and on-going care
- Includes objectives of care, recommendations for appropriate interventions, and appropriate time frames.
- Care plans (simple to very complex) must be aligned to the local context and consider available services
- Importance of clinical practice guidelines to standardize clinical care is widely recognised
- Cancer centres in LMIC have adapted guidelines to their needs
- A modern comprehensive cancer centre should have
 - practice guidelines for various clinical scenarios
 - process for multidisciplinary decision making and review
 - process for review of the quality of clinical care
- Engagement in research / training programs is recommended

Clinical Services

- Clinical management plans identify required interventions to care for the patient. Specialised clinical services are needed to provide these interventions
- Generally, these services need special accreditation and are subject to external review and control - countries/regions may have general accreditation standards and service-specific credentialing bodies
- Clinical services usually required for cancer include:
 - Office/Clinic Ambulatory Care
 - Diagnostic Imaging
 - Pathology and Laboratory Medicine
 - Surgery
 - Systemic Therapy
 - Radiation Therapy
 - Palliative Care, Pain Control
 - Supportive Care and Survivorship

Core Services - Infrastructure

A suite of common services that extends across a health care facility required to support the comprehensive range of cancer services:

- Administration / Management
- Human resources – professional development / competence
- Information technology
- Health records
- Quality and safety programs management
- Admission and discharge planning, patient transport
- Infection prevention and control
- Pharmacy and drug supply
- Equipment and technology support services
- Supplies and materials management – supply chain management
- Telecommunications
- Facilities
- Fire safety and radiation protection
- Occupational health and safety



Cancer centres are like icebergs.
To float seamlessly, what is apparent
to the public and patients must be
supported by a solid infrastructure of
invisible services.....

Population-based Cancer System

- Cancer services need to be integrated within a population-based system that includes:
 - National/Regional Cancer Plans
 - Public Education and Awareness
 - Prevention and Screening Programs
 - Cancer Registries
 - Education system
 - Research
 - Non-government organisations and support groups

Research and Education

- Cancer services - nimble, responsive to change
 - Engagement in research is crucial
- Education - essential mandate of cancer centres
 - Formal training programs for future professionals
 - Maintenance of competence and professional development
 - Patient and public education
- Cancer centres in LMIC should have a mandate to ‘clone’ themselves and build local cancer care capacity

Implementation

- Lower income countries may support only a subset of activities at the beginning
- The framework provides a base from which future needs can be organized
- This combined with identifying the cancers with the greatest burden that are also most preventable and treatable, as well as a palliative care plan, should form the basis for a country's efforts at planning cancer care and control



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DCP3 Disease Control Priorities 3rd Edition

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Key Messages
 Cancer is a preventable illness. Many people are more likely to die from cancer, and a cancer diagnosis can push households into poverty. Cancer prevention interventions, such as tobacco bans and HPV vaccinations, are possible, providing relatively large benefits to improve health equity.

Volume Contents

Download the entire volume

Front Matter

- Overview Chapter
- Part 1: Burden
- Part 2: Interventions
- Part 3: Policy, Cancer Services and Research
- Part 4: Economics

Back Matter

Annexes

Foreword by Dr. Amartya Sen

The lesson that emerges from the well-known empirical analysis presented in this volume is not only that a major difference can be made in the incidence, management, and elimination of cancer, even in the poorer countries of the world, but that this can be done in cost-effective and affordable ways. Understanding and determination are the difficulties most in need of change.

[Read complete foreword: HTML | PDF](#)

Lancet Article on Cancer

Published online 11 November, 2014

Introduction:
 Increases in cancer control—prevention, detection, diagnosis, surgery, other treatment, and palliative care—are increasingly needed in low-income and particularly in middle-income countries...

[Read more](#)

Cancer Incidence Worldwide

News and Events

Cancer Care: A Neglected Area in Global Health: Ring Post from Cancer Editor
 November 18, 2014

DCP3 cancer volume lead editor, Wilton Gilman, announced a prize to the World Bank's King, "Increasing in Health: Time and Time in Healthy Development." Gilman discusses the global neglect of cancer and highlights the importance of building a sustainable infrastructure for cancer control.

PRESS RELEASE: DCP3 Publishes Cancer Volume
 November 18, 2014

The latest Disease Control Priorities 3rd Edition (DCP3) volume on cancer, available today, gathers essential information on effectiveness, cost-effectiveness, feasibility and affordability of a range of interventions to provide evidence-based guidance to decision makers worldwide. It is available...

DCP3 Cancer Volume Presented at AORTIC Conference in Marrakech
 November 18, 2014

DCP3 Cancer volume editors and authors will launch the Cancer volume at the 5th AORTIC conference - "AORTIC Reading in Cancer Control in Africa" in Marrakech, Morocco November 18.

Meet the Authors

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Upcoming Volumes

Volume
 Coordinator



“It is not only what we do, but also what we do not do, for which we are accountable.”

Moliere

Thank you



SUPPLEMENTARY SLIDES

Cancer Control Plans



**INTERNATIONAL
CANCER CONTROL
PARTNERSHIP**



THE ICCP PORTAL: THE ONLINE 'ONE-STOP SHOP' FOR INTERNATIONAL CANCER CONTROL

Launched by the International Cancer Control Partnership (ICCP) in November 2013 at the World Cancer Leaders' Summit, the ICCP Portal is a web-based tool on cancer control planning and capacity-building, linked to non-communicable diseases (NCD) control and prevention.

on experiences in the field of cancer control. The Portal will shortly host networks related to specific topics on the cancer care continuum that pull the latest evidence together and identify best practices in those fields. The Cancer Prevention Network is the first among these networks, to be launched at the World Cancer Congress in 2014, and showcase a multimedia library of prevention campaigns, along with social marketing resources, policies and research papers.

European Guidelines for Quality National Cancer Control Programmes

- Cancer data and information
 - Registries, coding
 - Outputs, outcomes
- Research
 - Investment
 - Regulatory framework
 - Patient participation
 - Regulatory framework

European Guidelines for Quality National Cancer Control Programmes

- Integrated Care
- Diagnostics
- Treatment
 - Surgery, radiotherapy, chemotherapy
- Improving quality
 - CPGs, concentration of services, rare tumours
 - MDTs, networking collaboration
 - Surveillance after treatment
 - Patients' role

European Guidelines for Quality National Cancer Control Programmes

- Psychosocial oncology
 - Distress screening
- Survivorship and rehabilitation
 - Late effects
 - Self care
- Palliative and End of Life Care
 - Pain control
 - Advanced care planning

European Guidelines for Quality National Cancer Control Programmes

- Supportive functions within Health System
 - Governance and financing
 - UHC, catastrophic expenses
 - Cancer resources
 - Human resources – training, mix, non-health professionals
 - Infrastructure
 - Health technology
 - Cancer therapy – drug supply

High-Quality Cancer Care Delivery System

a conceptual framework

Safe, Effective, Patient-centered, Timely, Efficient, Equitable

- Engaged patients are at the center of framework
- Adequately-staffed, trained and coordinated workforce
- Evidence-based cancer care
- A learning health care IT system for cancer
- Translation of evidence into clinical practice, quality measurement, and performance improvement
- Accessible, affordable cancer care

IOM Report - Delivering High-Quality Cancer Care, 2013

Clinical Management

Framework for decision making in cancer screening, diagnosis, treatment, support, and on-going care

- Objectives of care, appropriate interventions and timelines
- Care plans aligned to the local context
- Clinical practice guidelines to standardize care
- A comprehensive cancer centre should have
 - practice guidelines for various clinical scenarios
 - process for multidisciplinary decision making and review
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- Engagement in research / training programs